

Student Sheet 7.1

Study Guide: The Digestive System      Answer Key

1. Define the words "organ" and "body system" and give examples of the differences between them.
  - a. An organ is a group of tissues (made of different types of cells) working together to perform a specific function in the body. Examples: heart, stomach, lungs, intestines,
  - b. A body system is a bunch of different organs working together to accomplish a specific task such as digestions, reproduction, breathing, circulating blood, etc. Organs make up a body system, an organ is one part of a body system. The digestive system is made of the mouth, esophagus, stomach, intestines, pancreas, liver, gall bladder – each organ has its own job that contributes to the overall system.
2. Define how food moves through the digestive tract.
  - a. Mouth→esophagus→stomach→small intestine→large intestine→rectum→anus
  - b. You should understand based on all of the readings, HW, and labs what happens at each point of the tract.
3. List the steps involved in performing chemical tests for sugar and starch, and be able to conduct these tests.
  - a. Sugar test: put the substance you are testing, dissolved in distilled water, and put it in a test tube, add about 10 drops of Benedict's solution, heat the test tube in a hot water bath for one minute, then record the results; if the substance tests positive for sugar then the solution will be purple → orange/red, the more sugar present, the redder the solution
  - b. Starch test: Lugol's solution: put the substance you are testing, dissolved in DW, and place it all in a test tube. Add a few drops of Lugol's solution to the test tube. Record the results – a negative result is a yellow/orange color and a positive solution is black or dark purple.
4. State the function of digestive enzymes
  - a. The purpose of digestive enzymes is to break large nutrients (like carbohydrates which are starches and sugars) into smaller particles so that they can be absorbed in the small intestine and nourish your body's cells. Carbs are broken into simple sugars by amylase, proteins are broken down by pepsin in the stomach.
5. Name the digestive enzymes in the mouth and stomach
  - a. Salivary amylase in the mouth breaks starch into sugar
  - b. Pepsin in the stomach breaks protein into amino acids
6. List at least four food sources of proteins, of carbohydrates, and of fats.
  - a. Proteins: beef, pork, chicken, egg
  - b. Carbs: fruit, veggies, cereal, pasta, rice, bread,
  - c. Fats: sweets, fried foods, chips, cookies,
7. Explain why the body needs proteins, carbohydrates, and fats.
  - a. Your body needs all of these nutrients in order to grow, repair, and function. All of your body cells need these nutrients in order to do their individual jobs to help you live.